



Practise the maths

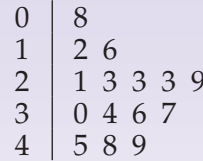
You need to be able to read tables and graphs in many different jobs. For example, you might need to work out which diameter pipe to connect to a radiator or which size radiator to use in a room.



16.1 Understanding data from stem-and-leaf diagrams

Worked example: The stem-and-leaf diagram shows the test scores of 15 students.

- a What was the highest test score?
- b Which test score occurred the most often?
- c How many students had a score of 25 or more?



Key
1 | 6 represents 16

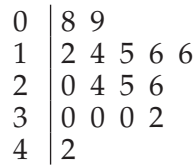
Answer

- a 49 (1 mark)
- b 23 (1 mark)
- c 8 students (2 marks)

A score of 23 is recorded three times in the diagram.

The scores 29, 30, 34, 36, 37, 45, 48 and 49 are all higher than 25.

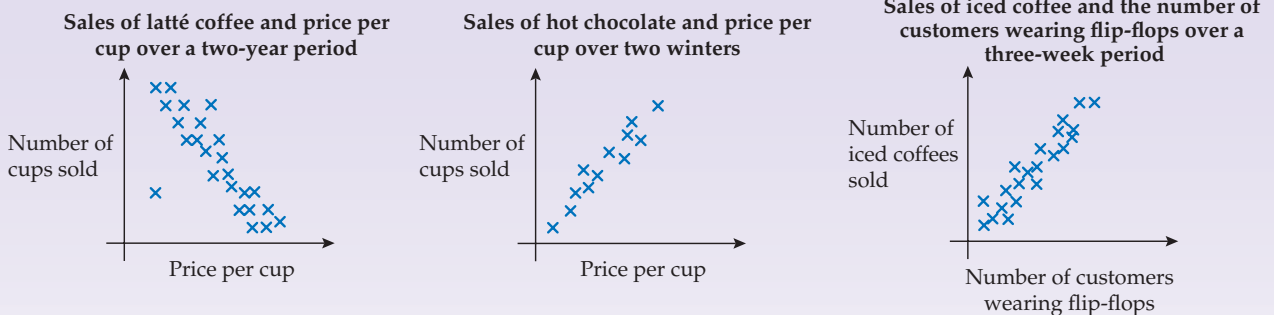
- 1 The stem-and-leaf diagram shows the engine capacities of some cars (in litres).
 - a What is the smallest engine capacity?
 - b How many cars' engine capacities are recorded in the diagram?
 - c What is the most common engine capacity?
 - d How many cars have an engine capacity of less than 2 litres?



Key
1 | 2 represents 1.2 litres

16.2 Using and understanding data from scatter diagrams

Worked example: The scatter diagrams show information about the coffees and hot chocolate sold at Coffee Café.



- a Use the relevant scatter diagram to describe the general trend in the number of cups of hot chocolate sold.
- b What is the statistical term used to describe this trend?

Answer

- a The trend is that the more the hot chocolate costs, the more cups are sold. (1 mark)
- b Positive correlation (1 mark)

Interpreting a graph

Always start by reading the title of the graph and then the labels on its axes.

Use the scatter diagrams from the worked example for Q1–3.

- 1 **a** Use the relevant scatter diagrams to describe the general trends in the numbers of cups of latté coffee and of iced coffee sold.
 - b** What is the statistical term used to describe each of these trends?
- 2 One of the points plotted on the scatter diagram of the number of latté's sold goes against the general trend.
 - a** Explain what this point means.
 - b** Give a possible reason for the point's unexpected position.
- 3 Do you think that the number of people wearing flip-flops actually caused the increase in the sales of iced coffee, or do you think that something else could have caused an increase in both the sales of iced coffee and the number of people wearing flip-flops? Explain your answer.

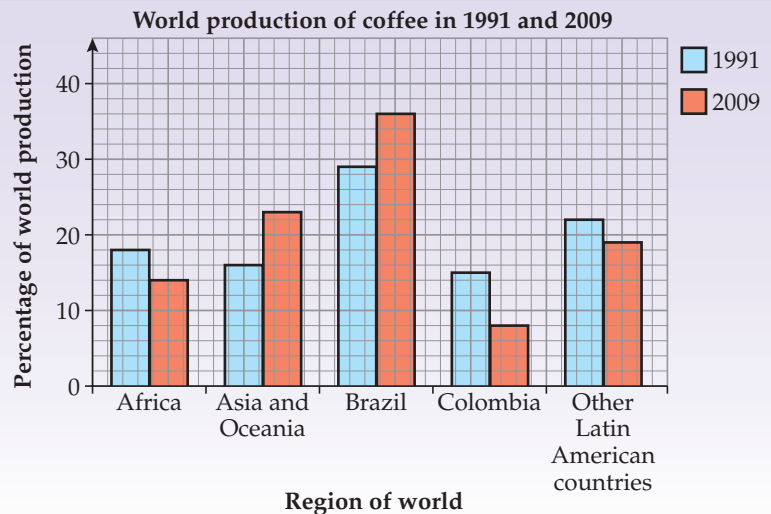
16.3 Using and understanding data from dual bar charts and line graphs

Worked example: The dual bar chart shows information about world coffee production in 1991 and 2009.

- a** In 1991, what percentage of coffee was produced in Other Latin American countries?
- b** In 2009, is a bag of coffee beans more likely to have come from Africa or Colombia?

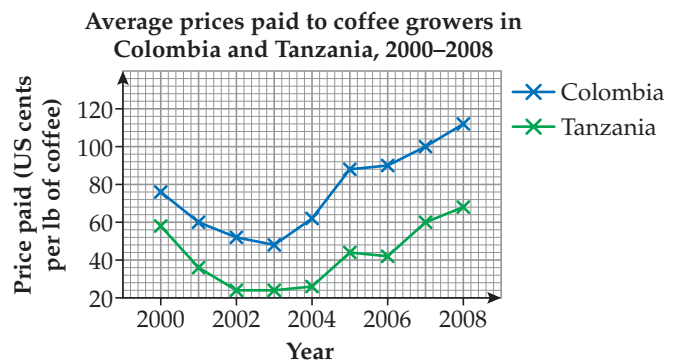
Answer

- a** 22% (1 mark)
- b** Africa (1 mark)



- 1 Use the dual bar chart from the worked example for this question.
 - a** By what percentage share did Brazil's coffee production increase between 1991 and 2009?
 - b** Can you tell from the dual bar chart whether Brazil produced more coffee in 2009 than in 1991? Explain your answer.

- 2 The dual line graph shows information about the prices paid to coffee growers.
 - a** How much were the coffee growers in Colombia paid per pound for their coffee in 2001?
 - b** What was the difference between the prices paid to coffee growers in Tanzania and Colombia in 2008?
 - c** Between which two years was there the greatest increase in the prices paid to the coffee growers?



- d** Describe how the prices paid to the coffee growers changed over the years 2000 to 2008. Explain how you used the graph to work out your answer.